

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A translucent ceramic according to claim 12 represented by the formula $\text{Ba}\{\text{Ti}_{x1}\text{M}_{x2}(\text{Mg}_{1-t}\text{Zn}_t)_y(\text{Ta}_{1-u}\text{Nb}_u)_z\}_v\text{O}_w$, wherein $0.015 \leq x1 + x2 \leq 0.90$; $0 < x1 \leq 0.90$ $0.02 \leq x1 + x2 \leq 0.90$; $0.02 \leq x1 \leq 0.90$; and $0 \leq x2 \leq 0.60$.

2. (Currently amended) A translucent ceramic according to claim 12 represented by the formula $\text{Ba}\{\text{Ti}_{x1}\text{M}_{x2}\text{Zn}_y(\text{Ta}_{1-u}\text{Nb}_u)_z\}_v\text{O}_w$, wherein $0.01 \leq x1 + x2 \leq 0.60$; $0 < x1 \leq 0.60$ $0.02 \leq x1 + x2 \leq 0.60$; $0.02 \leq x1 \leq 0.60$; and $0 \leq x2 \leq 0.30$.

3. (Currently amended) A translucent ceramic according to claim 12 represented by the formula $\text{Ba}\{\text{Ti}_{x1}\text{M}_{x2}\text{Mg}_y(\text{Ta}_{1-u}\text{Nb}_u)_z\}_v\text{O}_w$, wherein $0.04 \leq x1 + x2 \leq 0.80$; $0 < x1 \leq 0.80$ $0.02 \leq x1 \leq 0.80$; and $0 \leq x2 \leq 0.40$.

4. (Canceled)

5. (Previously presented) The translucent ceramic according to Claim 12, having a refractive index of 2.01 or more.

6. (Previously presented) The translucent ceramic according to Claim 12, having a polycrystalline structure.

7. (Currently amended) A process for producing the translucent ceramic comprising a perovskite having a linear transmittance of 20% or more determined using visible light at a wavelength of 633 nm and a sample having a thickness of 0.4 mm, and a composition represented by the formula $\text{Ba}\{\text{Ti}_{x1}\text{M}_{x2}(\text{A})_y(\text{Ta}_{1-u}\text{Nb}_u)_z\}_v\text{O}_w$, wherein A is selected from the group consisting of $(\text{Mg}_{1-t}\text{Zn}_t)$, Zn and Mg; M is at least one member selected from the group consisting of Sn, Zr, and Hf; w is a positive number for maintaining the electrical neutrality; $x1 + x2 + y + z = 1$; $0.015 \leq x1 + x2 \leq 0.90$; $0 < x1 \leq 0.90$;

$0 \leq x_2 \leq 0.60$; y is a positive number; $1.60 \leq z / y \leq 2.40$; $1.00 \leq v \leq 1.05$; $0 < t < 1$; and $0 \leq u \leq$

1, according to Claim 12, comprising:

preparing an unfired ceramic body, formed using a mixture of ceramic raw material powders, having a predetermined shape;

preparing a co-firing composition having substantially the same composition as that of the mixture of the ceramic raw material powders; and

firing the unfired ceramic body in contact with the co-firing composition in an atmosphere with an oxygen content of 90% by volume or more.

8. (Original) The process according to Claim 7, wherein the co-firing composition is powder and the firing step is performed in such a manner that the unfired ceramic body is embedded in the co-firing composition.

9. (Original) A translucent ceramic produced by the process according to Claim 7.

10. (Previously presented) An optical component comprising the translucent ceramic according to Claim 12.

11. (Original) An optical device including the optical component according to Claim 10.

12. (Currently amended) A translucent ceramic comprising a perovskite having a linear transmittance of 20% or more determined using visible light at a wavelength of 633 nm and a sample having a thickness of 0.4 mm, and a composition represented by the formula $\text{Ba}\{\text{Ti}_{x_1}\text{M}_{x_2}(\text{A})_y(\text{Ta}_{1-u}\text{Nb}_u)_z\}_v\text{O}_w$, wherein A is selected from the group consisting of $(\text{Mg}_{1-t}\text{Zn}_t)$, Zn and Mg; M is at least one member selected from the group consisting of Sn, Zr, and Hf; w is a positive number for maintaining the electrical neutrality; $x_1 + x_2 + y + z =$

1; $0.015 \leq x_1 + x_2 \leq 0.90$; ~~$0 < x_1 \leq 0.90$~~ $0.02 \leq x_1 + x_2 \leq 0.90$; $0.02 \leq x_1 \leq 0.90$; $0 \leq x_2 \leq 0.60$; y is a positive number; $1.60 \leq z / y \leq 2.40$; $1.00 \leq v \leq 1.05$; $0 < t < 1$; and $0 \leq u \leq 1$.

13. (Previously presented) The translucent ceramic according to Claim 1, having a polycrystalline cubic structure, a refractive index in the range of 2.079 to 2.362 and an Abbe number in the range of 13.2 to 29.9.

14. (Previously presented) An optical component comprising the translucent ceramic according to Claim 1.

15. (Previously presented) An optical device including the optical component according to Claim 14.

16. (Previously presented) The translucent ceramic according to Claim 2, having a polycrystalline structure and a refractive index of 2.01 or more.

17. (Previously presented) An optical component comprising the translucent ceramic according to Claim 16.

18. (Previously presented) An optical device including the optical component according to Claim 17.

19. (Previously presented) The translucent ceramic according to Claim 3, having a polycrystalline structure and a refractive index of 2.01 or more.

20. (Previously presented) An optical component comprising the translucent ceramic according to Claim 19.

21. (Previously presented) An optical device including the optical component according to Claim 20.